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TIME COURSE OF LEFT VENTRICULAR FUNCTION IN PATIENTS WITH IMPAIRED LEFT VENTRICULAR EJECTION FRACTION AFTER ACUTE MYOCARDIAL INFARCTION

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Background: Previous studies have shown that in patients with left ventricular (LV) dysfunction immediately after acute myocardial infarction (AMI), the risk of sudden cardiac death is highest during the first 30 days. Nevertheless, prophylactic implantation of cardioverter-defibrillators is only recommended 40 days post-AMI. The aim was to evaluate the extent of recovery in LV function in post-AMI patients with a left ventricular ejection fraction (LVEF) ≤40% at baseline. In addition, predictors of sustained impaired LV function during follow-up were established.

Methods: A total of 258 consecutive patients with AMI treated with primary percutaneous coronary intervention and baseline LVEF ≤40% (on 2-dimensional echocardiography within 48 hours of admission) were evaluated. All patients were followed prospectively and on 2-dimensional echocardiography was repeated at 3 months follow-up.

Results: Within the first 3 months, 21 patients (8%) died. A total of 219 (85%) patients underwent echocardiography at 3 months follow-up. Mean LVEF improved from 34±5% at baseline to 45±9% at 3 months follow-up (p <0.001). However, in a substantial number of patients (62 patients, 28%), LVEF remained ≤40% at 3 months follow-up. After adjustment for a broad range of clinical and echocardiographic parameters, prior myocardial infarction (OR 3.75, 95% CI 1.15 - 12.26, p=0.03), peak cardiac troponin T level (OR 1.11, 95% CI 1.05-1.18, p <0.001), end-systolic volume (OR 1.03, 95% CI 1.01-1.04, p <0.001), and wall motion score index (OR 4.06, 95% CI 1.10-14.92, p=0.04) at baseline were independent predictors for LVEF ≤40% at 3 months follow-up.

Conclusions: Majority of AMI patients with LV dysfunction at baseline recover during the first 3 months. However, LVEF remained ≤40% in a significant percentage of patients (28%). Prior myocardial infarction, peak cardiac troponin T level, end-systolic volume and wall motion score index at baseline were independent predictors of sustained impaired LV function at during follow-up.